

Finance and Insurance (Mathematics) in Zürich

Newsletter 9. December 2003*

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1. Federal Office of Private Insurance Seminar Talk
<http://www.bpv.admin.ch/en/aktuell/veranstaltungen.htm>

Time: Monday, 15. December 03, 17.15 h

Venue: ETH Zurich, main building, HG F1

Speaker: Dr. A. Brender (Actuarial Division, OSFI, Canada)

Title: Risk Based Supervision

Abstract: Many supervisors of financial institutions are developing and adopting a risk-based approach to supervision. The supervisor assesses the risk contained in an institutions operations and adjusts the degree and depth of its activities with respect to the institution accordingly. OSFI has adopted a unified risk-based approach to the supervision of deposit taking institutions (banks, trust companies, credit unions) and insurance companies. This is outlined in OSFIs Supervisory Framework. In this talk, the application of the Supervisory Framework to insurance companies is discussed. The role of risk management in an insurance company is considered. The interaction of risk management, capital requirements and studies of financial condition (through

Please send comments to: PD Dr. Walter Farkas, <http://www.math.ethz.ch/~farkas>

Dynamic Solvency Testing) are also discussed.

2. Joint Uni Zurich - IFOR/ETH Zurich Research Seminar:

”Quantitative Methods in the Economy”,

<http://www.iew.unizh.ch/seminars/quantitativemethods/ws0304/>

Time: Monday, 15. Dec. 03, 16.15 - 18.00

Venue: KO2-F-172 Uni Zentrum

Speaker: Prof. Werner Römisch, Humboldt-University Berlin

Title: ”Mean-Risk Optimization of Electricity Portfolios ”

Abstract: We consider the problem of simultaneous optimization of power generation and of a utility owning a hydro-thermal system and operating in the liberalized electricity market. We set up a mixed-integer multi-stage stochastic optimization model und the following issues:

- (i) Generation of scenario trees for the multivariate input process (load, prices, inflows)
- (ii) Dual decomposition techniques for computing lower bounds of the optimal value
- (iii) Multiperiod coherent risk measures and dual decomposition. Numerical results presented for a mid-term optimization model based on realistic data.

3. **Finance Seminar at the University of Zurich,**

<http://www.nccr-finrisk.unizh.ch/research/financeSeminarZH.htm>

3.1 Talk

Time: Friday, 12. Dec. 03, 12.15 13.30

Venue: Room KO2-F-172 University Centre, Entrance Karl Schmid-Strasse 4, Zurich

Speaker: Angelo Ranaldo, UBS Zurich

Title: How to Price Hedge Funds: From Two- to Four-Moment CAPM

3.2 Talk

Time: Friday, 19. Dec. 03, 12.15 13.30

Venue: Room KO2-F-172 University Centre, Entrance Karl Schmid-Strasse 4, Zurich

Speaker: Raynisch Mehra, University of California, Santa Barbara

Title: Junior Must Pay: Pricing the Implicit Put in Privatizing Social Security

4. **Joint Uni/ETH Zurich program ”Master of Advanced Studies in Finance”, Colloquium**

Time: Friday, 19. Dec. 03, 14.00 14.45

Venue: ETH Zurich, HG F 33.2

Speaker: David Ardia (MAS Finance 2002/03 student)

Title: Dependencies in low frequency data sets

Abstract: This empirical study proposes a dependency analysis of monthly financial time series. We use the overlapping technique and non-parametric correlation in order to increase both accuracy and consistency. Copulas are used to test extreme co-movements between financial securities. Our results indicate that even in a low-frequency framework, the common practice of assuming independence over time should be taken with caution due to the presence of GARCH effects. In addition,

extreme co-movements are observed across securities, especially for interest rates.

5. Openings:

5.1 The Center for Mathematical Sciences of the Munich University of Technology invites applications for

1 postdoctoral or doctoral position (for a maximum of 3 years)

starting March 1, 2004 at the Institute of Mathematical Statistics. Salary is at the BAT IIa level and depends on the degree, age and family status of the applicant.

We are looking for applicants who are interested in participating within the project "Statistical Methods for Model Selection in Regression" sponsored by the German Science Foundation (DFG). The aim is to develop interpretable discrepancy measures and appropriate statistical tests for model selection. Sound knowledge in asymptotic statistics and Bayesian Statistics with Markov Chain Monte Carlo methods are required. Multivariate and time dependence structures of the data will be considered. The methods will be implemented and tested on applications from insurance and finance.

Successful applicants are expected to have a Ph.D., a M.Sc. or Diploma in mathematics or statistics. In addition, we expect computing experience with statistical software (SAS and/or Splus) and programming languages (C++ and/or Matlab). German language skills are helpful, but not necessary. An interest in learning the German language is however expected.

Munich University of Technology is an equal opportunity employer and particularly encourages applications of women.

Please, send applications including CV and list of publications to

Prof. Dr. Claudia Czado Zentrum Mathematik Technische Universitaet Muenchen Boltzmannstrasse 3 85747 Garching bei Muenchen phone: +49 89 289 17428 email: cczado@ma.tum.de

General information can be found at

<http://www-m4.mathematik.tu-muenchen.de/m4/index.en.html>

5.2 PostDoc Positions at the **Johann Radon Institute for Computational and Applied Mathematics (RICAM) at the Austrian Academy of Sciences**, Austria

RICAM is a research institute which went into operation on January 1, 2003, and will be gradually built up to a total of 25 PostDoc positions in six areas:

Scientific Computing - Computational Methods for Direct Field Problems Scientific Computing - Inverse Problems Scientific Computing - Optimization and Control Symbolic Computation Analysis of Partial Differential Equations Mathematical Finance

The institute is housed on the campus of the Johannes Kepler Universitt in Linz, a town of about 200.000 on the Danube, very close to the Austrian Alps, and half-way between Vienna and Salzburg.

The "Mathematical Finance Group" is looking for a PostDoc with a strong interest and research experience in the "Applications of stochastic processes in finance".

This position is expected to be available from March 1, 2004.

Further information can be obtained from one of the group leaders

Prof. Gerhard Larcher: gerhard.larcher@jku.at

Prof. Walter Schachermayer: wschach@fam.tuwien.ac.at

The "Scientific computing - Optimization and Control Group" is searching two Post-Docs with a strong background in applications to partial differential equations or variational problems. For information contact Prof.K. Kunisch at: karl.kunisch@uni-graz.at PostDocs interested to work in one of the other research areas are encouraged to inquire with the director, Prof. Heinz W. Engl at, heinz.engl@oeaw.ac.at

For all positions a doctorate in mathematics or a closely related field is required. The working language is English.

The positions are initially for up to three years, one renewal for three more years is possible depending on achievements.

Two sets of applications with personal and scientific data, copies of relevant documents and a statement about scientific interests and achievements should be sent to

Prof. Heinz W. Engl Johann Radon Institute Austrian Academy of Sciences A-4040 Linz Austria